

Listing of claims:

1. (currently amended) A heat reactor system comprising: an elongated tubular housing having an inlet duct for receiving injected fuel and air and an outlet duct for expelling heated gases, said elongated tubular housing being partitioned internally by at least one flow conditioner, said flow conditioner being perpendicularly positioned along ~~the an~~ axis of ~~the said elongated~~ tubular housing thus forming at least a first combustion chamber and at least one reactor compartment having no moving parts, said flow conditioner comprising: a circular disc having multiple slits there through, said multiple slits being bent outwardly forming vanes, said vanes directing airflow in a controlled angular manner outwardly there from and said circular disc further includes multiple cross bars that function to deflect, condition, and block gases from escaping through a central area of said flow conditioner,

whereby:

when said fuel and air is injected into said first combustion chamber via said inlet duct, a primary turbulence zone is established wherein the mixture is ignited and combusted thus producing sufficient heat to cause said fuel to instantaneously combust and start to decompose back into its natural elements which in turn releases energy in the form of intense heat, thereafter once said mixture is converted into a gaseous form, said mixture is forced into a spiraling motion and then forced into said reactor compartment via said vanes on said flow conditioner, said spiraling motion provides increased dwell time for total combustion, thereafter said intense heat that is now free from harmful emissions including, hydrocarbons, carbon monoxide, odors, organic and inorganic particulates is expelled from within said elongated tubular housing

via said outlet duct and can be used for energy purposes in an environmentally friendly manner.

2. (original) The heat reactor system of claim 1 wherein said elongated tubular housing is made from a high heat-resistant material.

3. (original) The heat reactor system of claim 1 wherein said elongated tubular housing is coated with a high heat-resistant material.

4. (original) The heat reactor system of claim 1 wherein said flow conditioner is made from a high heat-resistant material.

5. (cancelled) The heat reactor system of claim 1 wherein said flow conditioner is coated with a high heat-resistant material.

6. (original) The heat reactor system of claim 1 further includes multiple reactor compartments that are separated by multiple flow conditioners.

7. (cancelled) The heat reactor system of claim 1 wherein said flow conditioner comprising: a circular disc having multiple slits there through, said multiple slits being bent outwardly forming vanes and said vanes directing airflow in a controlled angular manner outwardly there from.

8. (previously amended) The heat reactor system of claim 1 wherein said circular disc further includes multiple locating tabs thereon, said multiple locating tabs allow said flow conditioner to be correctly orientated within said elongated tubular housing.

9. (cancelled) The heat reactor system of claim 7 wherein said circular disc further includes multiple cross bars that function to deflect, condition, and block gases from escaping from a central area of said flow conditioner,

whereby:

when said fuel and air is injected into said first combustion chamber via said inlet duct, a primary turbulence zone is established wherein the mixture is

ignited and combusted thus producing sufficient heat to cause said fuel to instantaneously combust and start to decompose back into its natural elements which in turn releases energy in the form of intense heat, thereafter once said mixture is converted into a gaseous form, said mixture is forced into a spiraling motion and then forced into said reactor compartment via vanes on said flow conditioner, said spiraling motion provides increased dwell time for total combustion, thereafter said intense heat is expelled from within said elongated tubular housing via said outlet duct,

whereby:

resultant pollution free hot gases and/or air may be used for energy purposes in an environmentally friendly manner.

10. (currently amended) A heat reactor system comprising: an elongated tubular housing having an inlet duct for receiving injected fuel and air and an outlet duct for expelling heated gases, said elongated tubular housing being partitioned internally by at least one flow conditioner, said flow conditioner being perpendicularly positioned along the axis of the tubular housing thus forming at least a first combustion chamber and at least one reactor compartment, said flow conditioner comprising: a circular disc having multiple slits there through, said multiple slits being bent outwardly forming vanes, said vanes directing airflow in a controlled angular manner outwardly there from and said circular disc further includes multiple cross bars that function to deflect, condition, and block gases from escaping through a central area of said flow conditioner,

whereby:

when said fuel and air is injected into said first combustion chamber via said inlet duct, a primary turbulence zone is established wherein the mixture is ignited and combusted thus producing sufficient heat to cause said fuel to instantaneously combust and start to decompose back into its natural elements

which in turn releases energy in the form of intense heat, thereafter once said mixture is converted into a gaseous form, said mixture is forced into a spiraling motion, said spiraling motion provides increased dwell time, said spiraling motion causing heavier materials including hydrocarbons, carbon and any other heavy molecules of said fuel therein to be directed to an outermost area of said reactor compartment due to centrifugal force and are retained in said outermost area until converted to a gaseous form, said mixture is forced into said spiraling motion and then forced into said reactor compartment via said vanes on said flow conditioner, said spiraling motion provides increased dwell time for total combustion, thereafter said intense heat that is now free from harmful emissions including, hydrocarbons, carbon monoxide, odors, organic and inorganic particulates is expelled from within said elongated tubular housing via said outlet duct and can be used for energy purposes in an environmentally friendly manner.

11. (original)The heat reactor system of claim 1 wherein said fuel is either in the form of aviation fuel, oil, kerosene, gas, or alcohol.

12. (cancelled) The heat reactor system of claim 1 wherein said fuel and air is injected into said first combustion chamber via said inlet duct, a primary turbulence zone is established wherein the mixture is ignited and combusted thus producing sufficient heat to cause said fuel to instantaneously combust and start to decompose back into its natural elements which in turn releases energy in the form of intense heat, thereafter once said mixture is converted into a gaseous form, said mixture is forced into a spiraling motion and then forced into said reactor compartment via vanes on said flow conditioner, said spiraling motion provides increased dwell time for total combustion, thereafter said intense heat is expelled from within said elongated tubular housing via said outlet duct, whereby;

resultant substantially (99.99%) pollution free hot gases and/or air may be used for energy purposes in an environmentally friendly manner.

13. (withdrawn) The method of producing substantially pollution free gases comprising: flowing polluted air and fuel into an elongated tubular housing partitioned internally by at least one flow conditioner; igniting said fuel and polluted air mixture to produce sufficient heat to convert said mixture into a gaseous form; forcing said gaseous mixture through said flow conditioner to create a spiraling motion of said mixture; and forcing said spiraling mixture into a reactor compartment providing a dwell time at an elevated high temperature for substantially total combustion.

14. (withdrawn) The method of Claim 13 wherein said ignited fuel and polluted air mixture are forced through a plurality of flow conditioners.

15. (withdrawn) The method of Claim 13 wherein said polluted air and ignited fuel mixture is forced through slits and vanes of said flow conditioner to create said spiraling motion of said ignited polluted air and fuel mixture.